

FACTSHEET

Veterinary Services

United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

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Q&A's About West Nile Virus

Q. What is West Nile virus?

A. West Nile is a type of virus that causes encephalitis, or inflammation of the brain. The virus has been found in Africa, western Asia, the Middle East, and the Mediterranean region of Europe.

The virus is transmitted by mosquitos and ticks that acquire it from infected birds. Migrating birds may play a role in spreading the disease.

Q. Why is the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) involved?

A. Because this virus is transmitted by mosquitoes, it has potential to affect livestock and poultry. APHIS is the agency within USDA responsible for protecting the health of U.S. livestock.

The National Veterinary Services Laboratories, the only Federal facilities in the United States dedicated to the diagnosis of both domestic and foreign animal diseases, provides support for the APHIS programs designed to protect the health of the Nation's livestock and poultry. NVSL uses state-of-the-art diagnostic techniques to rapidly determine what disease agent is present and what risk it presents to U.S. animal health. Because the West Nile virus was killing birds, the Bronx Zoo went to NVSL for assistance in isolating the cause of the outbreak.

Q. How did APHIS help the Health and Human Service's Centers for Disease Control and Prevention (CDC) identify the virus?

A. On September 14, 1999, NVSL isolated a virus from neurological and other tissues of flamingos and trogons (pheasants) from the Bronx Zoo and crows from elsewhere in the New York City area. Samples

of the isolated virus were sent to CDC for identification. On September 27, CDC officials announced that the isolated virus was very similar to that of the West Nile virus, previously unseen in the Western Hemisphere. CDC connected this disease to the encephalitis outbreak that has killed 6 people and infected at least 55 in the New York City area. It has also been identified in crows and wild birds in Connecticut and New Jersey.

Q. What other monitoring activities is APHIS undertaking?

A. The CDC, U.S. Geological Survey's National Wildlife Health Laboratory, and USDA are cooperating to survey for West Nile virus in a wide range of wild birds. This Federal working group, in conjunction with relevant State agencies, will gather and analyze surveillance data to define the extent to which the virus is distributed in mosquito and bird populations outside the affected area. Intensified surveillance for infected birds and mosquitoes may detect the virus in an even broader geographic range. In addition, APHIS will continue to survey and monitor horses in the affected area.

Q. What other actions is USDA taking?

A. APHIS officials are working with Federal, State, and local health and agricultural officials to coordinate efforts to ensure that the West Nile virus outbreak in the New York City area does not become a significant animal health problem as well. APHIS officials are responding to the situation by developing a diagnostic test for the virus, conducting inoculation studies to determine the effects on U.S. livestock, and developing a virus surveillance plan.

USDA's Agricultural Research Service will conduct inoculation studies with turkeys. NVSL will do the same with chickens. NVSL's Foreign Animal Disease Diagnostic Laboratories will conduct studies with horses as well. All of these efforts should aid scientists in learning more about the disease and how it affects different species.

Q. Is this outbreak the result of a bioterrorist attack?

A. Based on characteristics of the outbreak, APHIS and other agencies have found no reason to believe that this disease outbreak was caused by a bioterrorist attack.

Q. Are animals other than birds affected by the virus?

A. A cluster of horses in the Riverhead area of Long Island, NY, has shown signs of encephalitis and West Nile virus was positively identified as the cause of the infection. Clinical signs of the virus in horses may include depression, listlessness, stumbling and incoordination, weakness of limbs, ataxia, convulsions, circling, hyperexcitability, partial paralysis, coma, or death. A fever may or may not be present. Experimental tests have indicated that sheep, chickens, and pigs could be affected by the virus, but no cases in these animals have been reported in New York or anywhere else in the United States. In tests, the virus caused pregnant sheep to abort. The tests also resulted in the death of young chickens. Cows may show antibodies to the virus, which means they have contracted it without showing any clinical signs or becoming ill.

Q. What precautions can be taken to protect animals from this virus?

A. Preventing exposure of animals to mosquitoes is essential. Horses should be stabled inside during peak mosquito feeding times (dusk and dawn). Insect repellents are recommended.

Birds can also be protected by limiting exposure to mosquitoes. In areas reporting large numbers of bird deaths, investigations are being conducted and samples collected to determine the cause of the deaths. People finding dead birds should notify local health officials.

No vaccine and no specific treatment are available for West Nile virus. Because mosquito numbers and activity are declining due to decreasing temperatures, we expect virus transmission to decline as well.

Q. Must horses affected by the virus be euthanized?

A. No. Because horses are terminal hosts, it is highly unlikely that mosquitos feeding on an infected horse would ingest enough of the virus to transmit it to other animals. This makes it unnecessary to euthanize sick horses that could recover.

Q. Will horses affected by the virus be quarantined?

A. No. The fact that infected horses do not appear to be a carrier for the disease makes it unlikely a quarantine would be necessary.

Q. Are dogs and cats affected by the virus?

A. Dogs and cats do not appear to be affected by the virus.

Q. What is the horse mortality rate in the affected area so far?

A. As of October 18, a reported 22 horses had shown obvious clinical signs of possible infection. Of those, 9 have died or been euthanized and the others are recovering. Two other horses connected with Belmont Park in Nassau County, NY, showed some signs of this disease but recovered within 4 to 5 days. This does not rule out the possibility that other horses may be infected with the virus, but so far only a minimal number of illnesses have been reported. It may be that many horses recover from infection without showing signs of illness.

Q. Are there potential trade implications associated with this situation?

A. Hong Kong already has shut out U.S. poultry exports, even though there have been no clinical signs of the virus in turkeys or chickens. Other countries may be considering similar actions.

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